D-E990/EJ915

SERVICE MANUAL

Ver 1.0 1999. 10

US Model
Canadian Model
AEP Model
UK Model
E Model
Chinese Model
D-EJ915
Tourist Model
D-E990

Photo: D-E990

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	US : CDM-3022EBG Other : CDM-3022EBA
Optical Pick-Up Name	US : DAX-22EG Other : DAX-22E

SPECIFICATIONS

System
Compact disc digital audio system

Laser diode properties
Material: GaAlAs
Wavelength: λ = 780 nm
Emission duration: Continuous
Laser output: Less than 44.6 μW
(This output is the value measured at a distance of 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)

D-A conversion
1-bit quartz time-axis control

Frequency response
20 - 20,000 Hz $^{+1}_{-2}$ dB (measured by EIAJ CP-307)

Output (at 4.5 V input level)
Line output (stereo minijack)
Output level 0.7 V rms at 47 kilohms
Recommended load impedance over 10 kilohms
Headphones (stereo minijack)
Approx. 5 mW + Approx. 5 mW at 16 ohms
(Approx. 3 mW + Approx. 3 mW at 16 ohms)*
*For the customers in France
Optical digital output (optical output connector)
Output level: –21 - –15 dBm
Wavelength: 630 - 690 nm at peak level

Power requirements
For the area code of the model you purchased, check the upper left side of the bar code on the package.
- Two Sony NH-14WM rechargeable batteries: 2.4 V DC
- Two LR6 (size AA) batteries: 3 V DC
- AC power adaptor (DC IN 4.5 V jack):
  US/Canadian model: 120 V, 60 Hz
  AEP/E13 model: 220 - 230 V, 50/60 Hz
  UK model: 230 - 240 V, 50 Hz
  Tourist/E33 model: 100 - 240 V, 50/60 Hz
  Hong Kong model: 220 V, 50/60 Hz
  Chinese model: 220 V, 50 Hz
- Sony DCC-E245 car battery cord for use on car battery: 4.5 V DC

Battery life* (approx. hours)
(When you use the CD player on a flat and stable surface.)
Playing time varies depending on how the CD player is used.

Two NH-14WM (charged for about 4 hours**)	25
Battery case (two alkaline batteries)	40
Rechargeable batteries NH-14WM and battery case (two alkaline batteries)	62

* Measured value by the standard of EIAJ (Electronic Industries Association of Japan).
** Charging time varies depending on how the rechargeable battery is used.

Operating temperature
5°C - 35°C (41°F - 95°F)

Dimensions (w/h/d) (excluding projecting parts and controls)
Approx. 127.2 × 19 × 130.1 mm
(5 1/8 × 3/4 × 5 1/8 in.)

Mass (excluding rechargeable batteries)
Approx. 167.5 g (6.0 oz)

Supplied accessories
AC power adaptor (1)
Headphones/earphones with remote control (1)
Rechargeable batteries (2)
Battery carrying case (2)
Carrying case (1)
Battery case (1)
AC plug adaptor (1)*
* Supplied with Tourist and E33 models

Design and specifications are subject to change without notice.

- Abbreviation
  E13: 220 - 230 V AC area in E model
  E33: 100 - 240 V AC area in E model

PORTABLE CD PLAYER

MICROFILM

SONY®

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This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

Befor Replacing the Optical Pick-Up Block

Please be sure to check thoroughly the parameters as par the "Optical Pick-Up Block Checking Procedures" (Part No.: 9-960-027-11) issued separately before replacing the optical pick-up block. Note and specifications required to check are given below.

- FOK output: IC601 ㉟ pin
  When checking FOK, remove the lead wire to disc motor.
- RF signal P-to-P value: 0.35 to 0.55 Vp-p

Precautions for Checking Emission of Laser Diode

Laser light of the equipment is focused by the object lens in the optical pick-up so that the light focuses on the reflection surface of the disc. Therefore, be sure to keep your eyes more then 30 cm apart from the object lens when you check the emission of laser diode.

Laser Diode Checking Methods

During normal operation of the equipment, emission of the laser diode is prohibited unless the upper lid is closed while turning ON the S801. (push switch type)
The following two checking methods for the laser diode are operable.

- **Method:**
  Emission of the laser diode is visually checked.

1. Open the upper lid.
2. With a disc not set, turn on the S801 with a screwdriver having a thin tip as shown in Fig.1.
3. Press the ▶II button.
4. Observing the objective lens, check that the laser diode emits light.
   When the laser diode does not emit light, automatic power control circuit or optical pickup is faulty.
   In this operation, the objective lens will move up and down 5 times along with inward motion for the focus search.

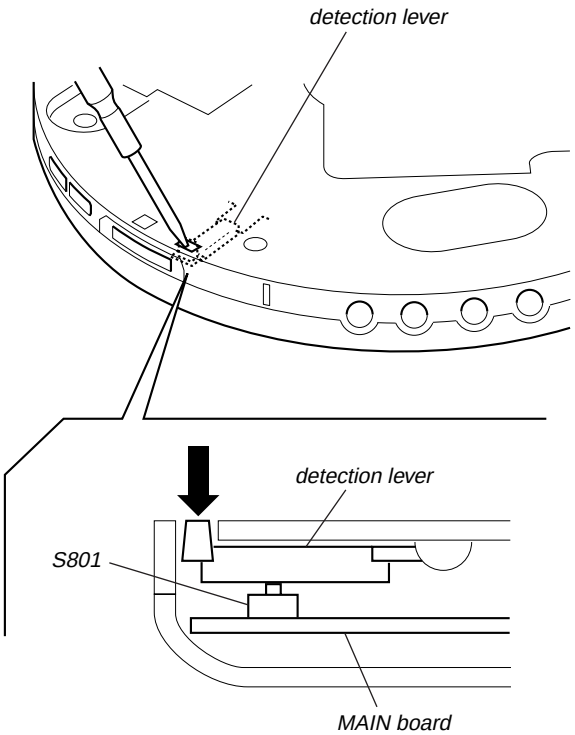


Fig. 1 Method to push the S801

SECTION 2
GENERAL

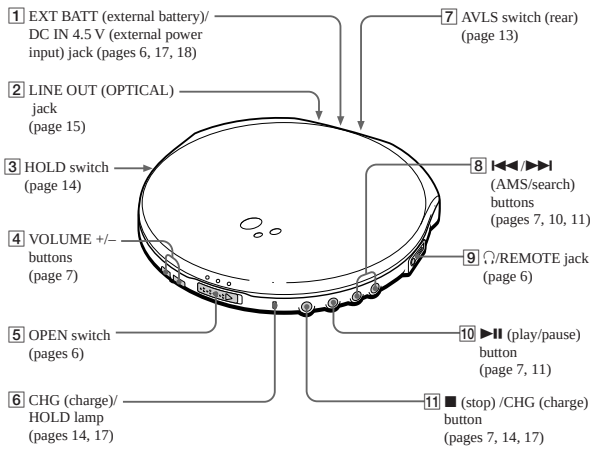
This section is extracted from instruction manual.

Getting started

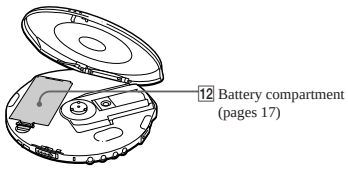
Locating the Controls

For details, see pages in parentheses.

CD player (front)

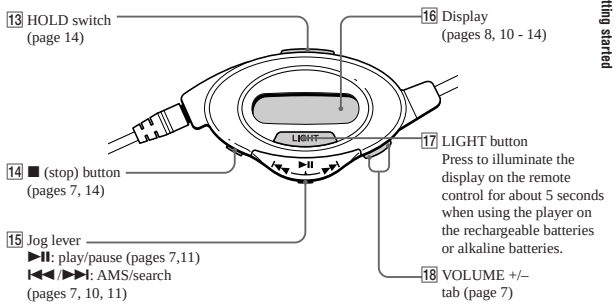

1 EXT BATT (external battery)/ DC IN 4.5 V (external power input) jack (pages 6, 17, 18)
2 LINE OUT (OPTICAL) jack (page 15)
3 HOLD switch (page 14)
4 VOLUME +/– buttons (page 7)
5 OPEN switch (pages 6)
6 CHG (charge)/ HOLD lamp (pages 14, 17)
7 AVLS switch (rear) (page 13)
8 I◄◄ /►►I (AMS/search) buttons (pages 7, 10, 11)
9 /REMOTE jack (page 6)
10 ►II (play/pause) button (page 7, 11)
11 ■ (stop) /CHG (charge) button (pages 7, 14, 17)

CD player (inside)

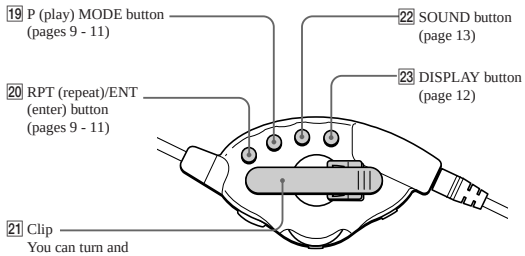


Remote control

(Front)


13 HOLD switch (page 14)
14 ■ (stop) button (pages 7, 14)
15 Jog lever ►II: play/pause (pages 7,11) I◄◄ /►►I: AMS/search (pages 7, 10, 11)
16 Display (pages 8, 10 - 14)
17 LIGHT button Press to illuminate the display on the remote control for about 5 seconds when using the player on the rechargeable batteries or alkaline batteries.
18 VOLUME +/– tab (page 7)

(Rear)

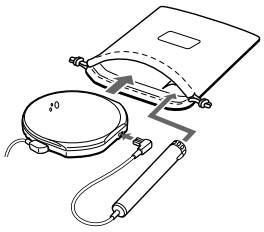

19 P (play) MODE button (pages 9 - 11)
20 RPT (repeat)/ENT (enter) button (pages 9 - 11)
21 Clip You can turn and change the angle of the clip.
22 SOUND button (page 13)
23 DISPLAY button (page 12)

Note

Use only the supplied remote control. You cannot operate this CD player with the remote control supplied with other CD players.

Using the carrying case

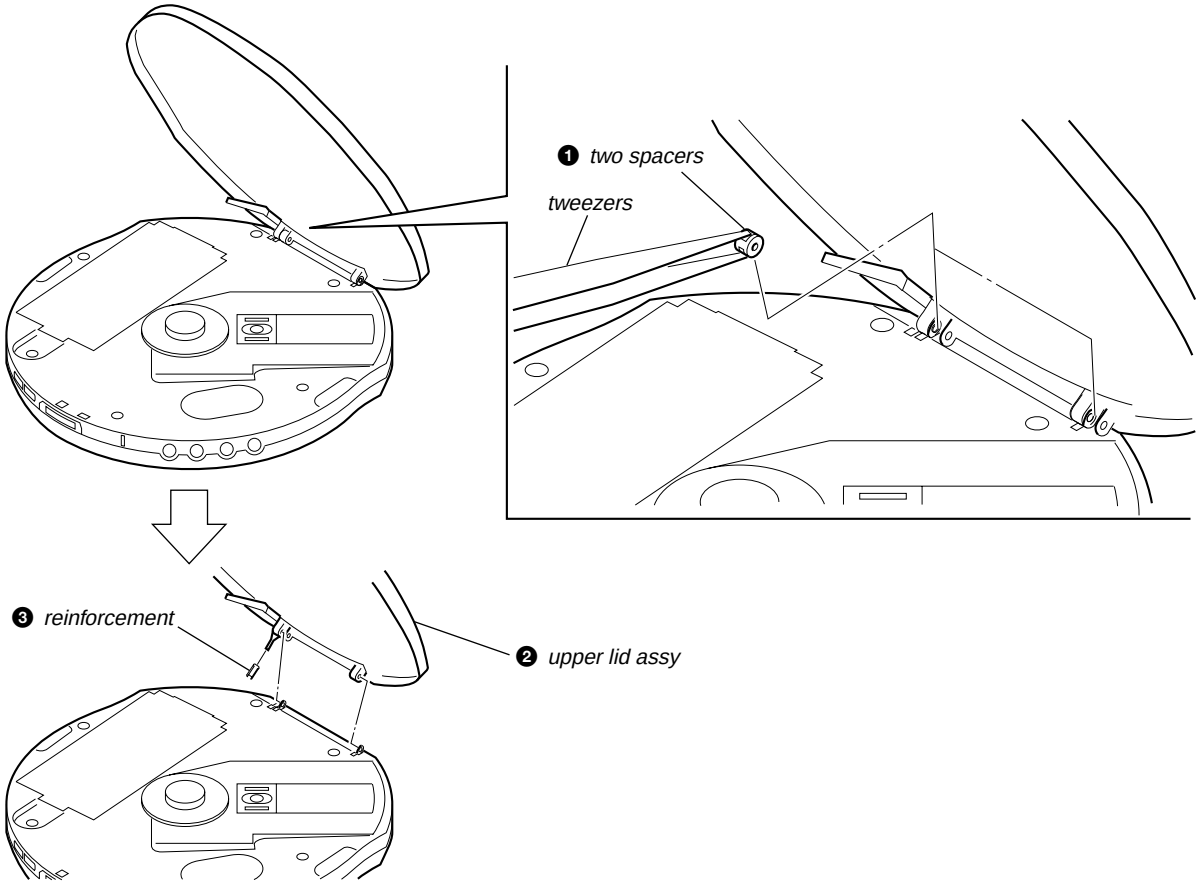
You can carry your player and its battery case together using the supplied carrying case.
Insert them into the proper places in the case as illustrated below.



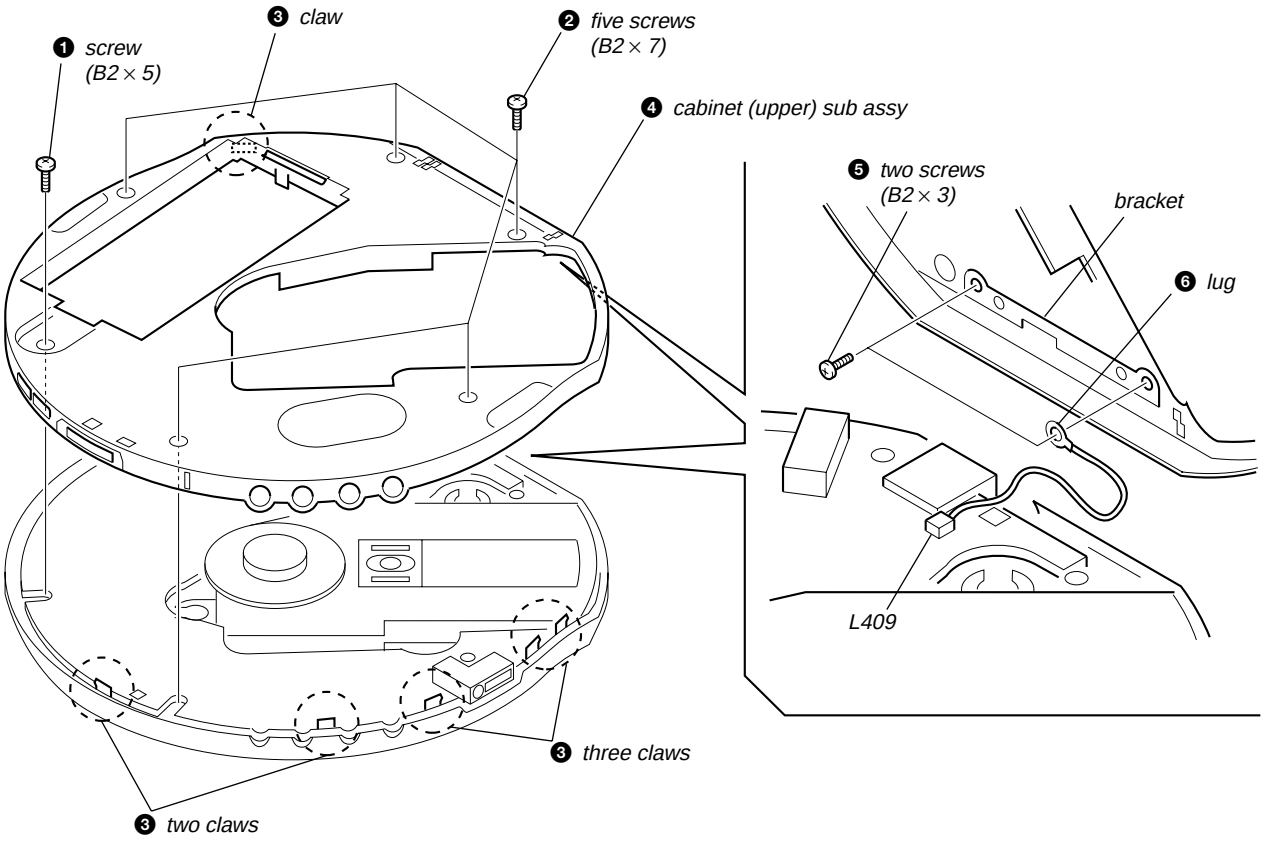
SECTION 3
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

UPPER LID ASSY

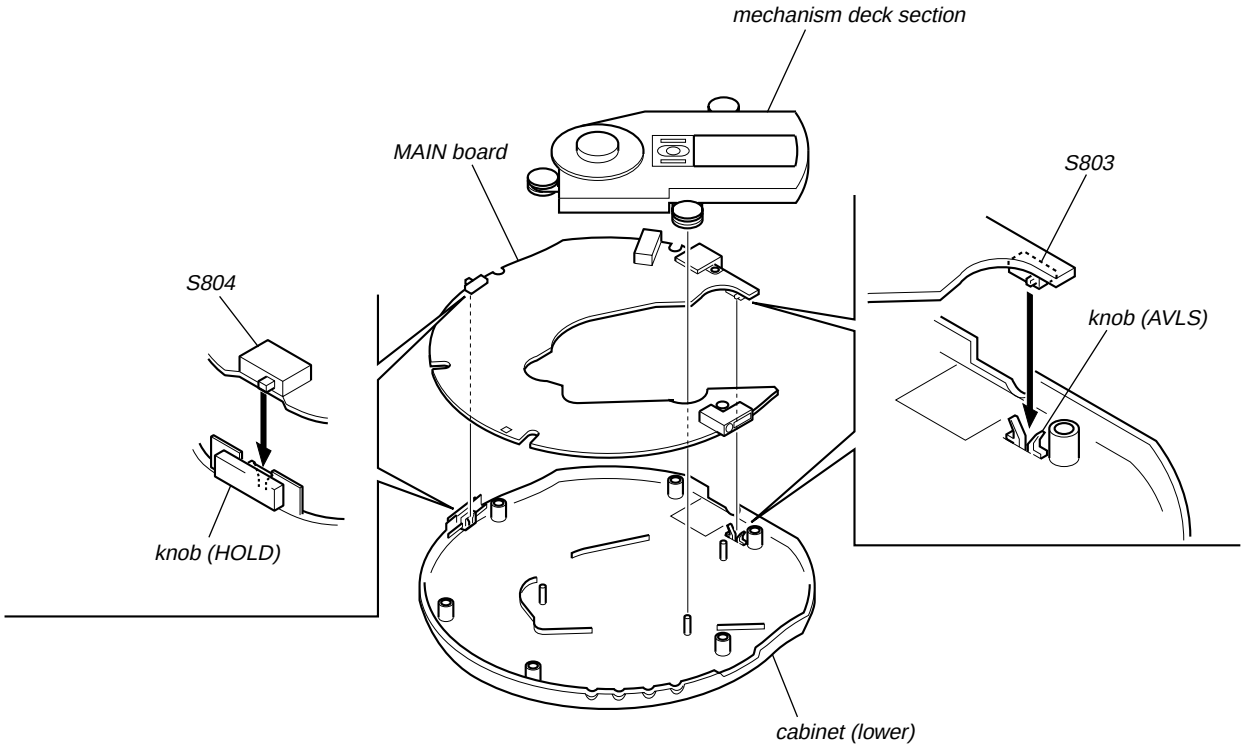


CABINET (UPPER) SUB ASSY



INSTALLATION OF MAIN BOARD

When installing MAIN board, adjust the S803, 804 and knobs (AVLS, HOLD)



SECTION 4
ELECTRICAL ADJUSTMENTS

The CD section adjustments are done automatically in this set.

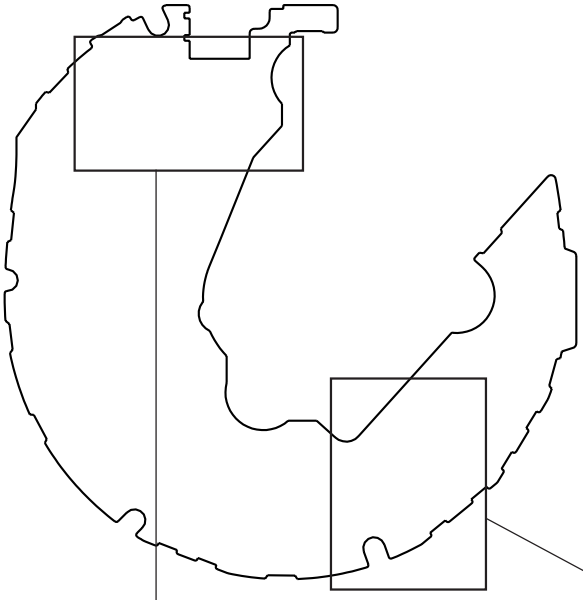
Precautions for Check

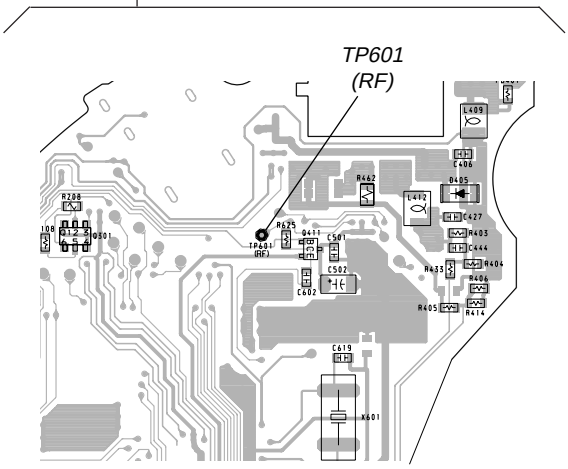
1. Perform check in the order given.
2. Use YEDS-18 disc (Part No.: 3-702-101-01) unless otherwise indicated.
3. Power supply voltage requirement: DC4.5 V in DC IN jack. (J401)

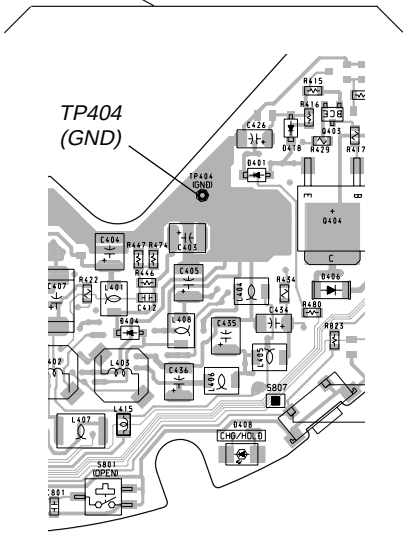
   VOLUME button : Minimum
   AVLS switch : NORM
   HOLD switch : OFF

Checking Location:

– MAIN board (Side A) –





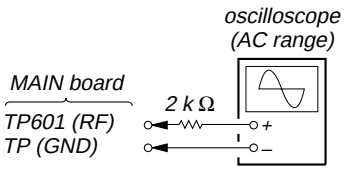


Focus bias Check

Condition:

• Hold the set in horizontal state.

Connection:

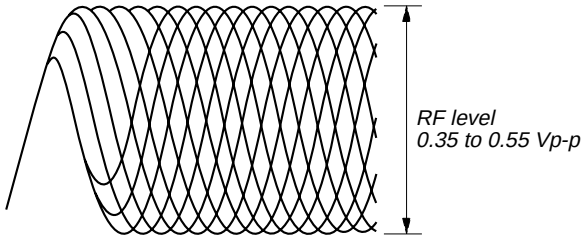


Procedure:

1. Connect the oscilloscope to the test points TP601 (RF) and TP404 (GND) on the MAIN board.
2. Set a disc. (YEDS-18)
3. Press the ▶II button.
4. Check the oscilloscope waveform is as shown below.
   A good eye pattern means that the diamond shape (◊) in the center of the waveform can be clearly distinguished.

RF Signal reference Waveform (Eye Pattern)

VOLT/DIV : 100 mV (With the 10:1 probe in use)
TIME/DIV : 500 ns

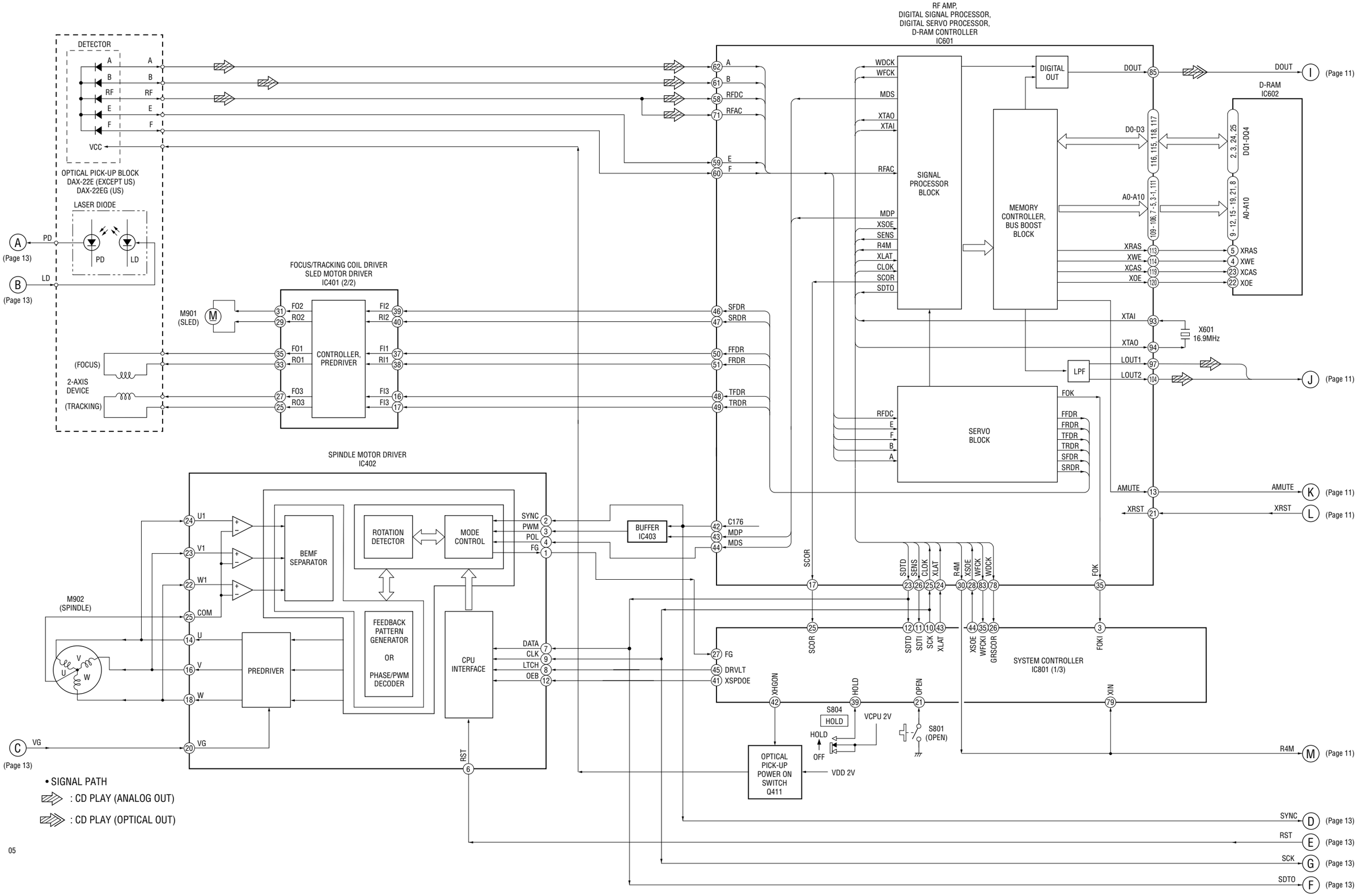


To watch the eye pattern, set the oscilloscope to AC range and increase the vertical sensitivity of the oscilloscope for easy watching.

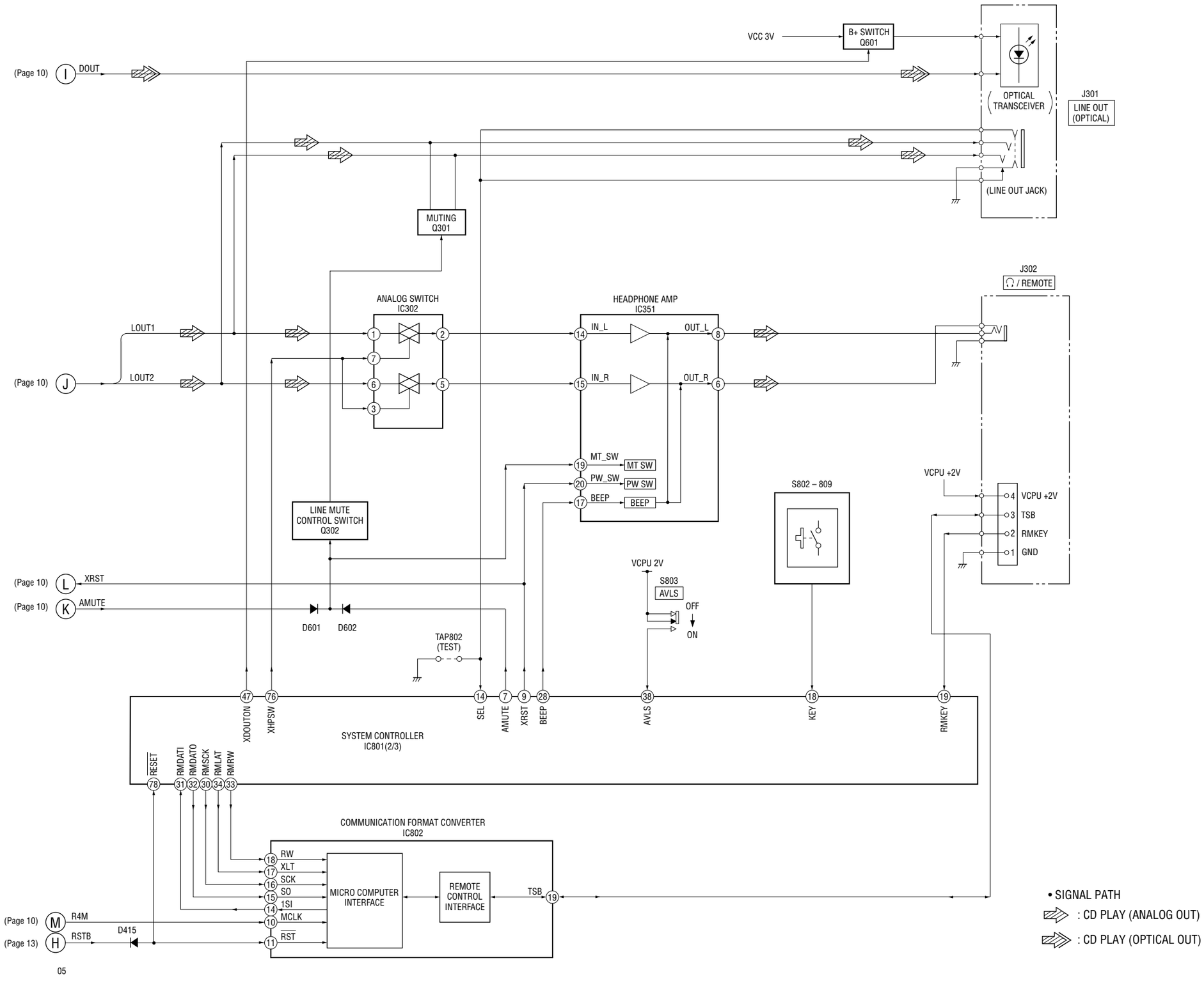
5. Stop revolving of the disc motor by pressing the ■ button.

SECTION 5
DIAGRAMS

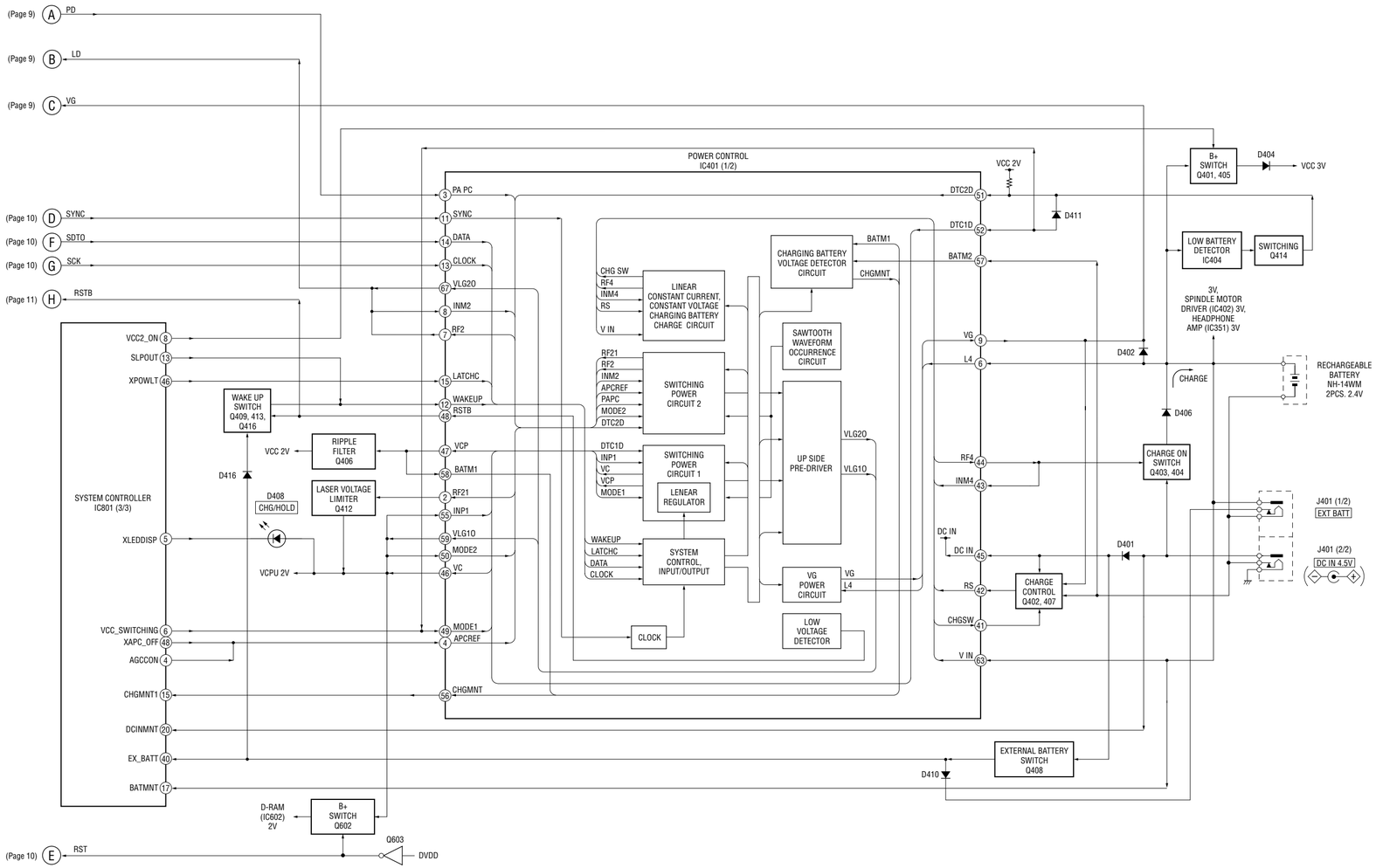
5-1. BLOCK DIAGRAM – MAIN Section (1/2) –



5-2. BLOCK DIAGRAM – MAIN Section (2/2) –



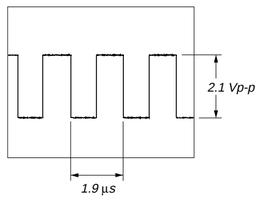
5-3. BLOCK DIAGRAM – POWER SUPPLY Section –



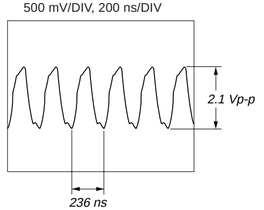
05

• **Waveforms**

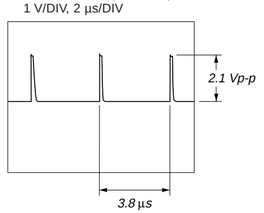
❶ IC401 ⑬ CLOCK, IC402 ⑨ CLK
IC601 ㉕ CLOK, IC801 ⑩ SCK
2 V/DIV, 2 µs/DIV



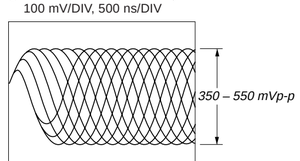
❷ IC601 ㉚ R4M
500 mV/DIV, 200 ns/DIV



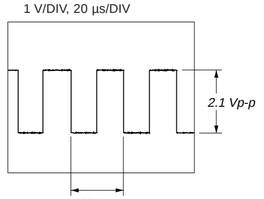
❸ IC601 ㊸ MDP (CD PLAY)
1 V/DIV, 2 µs/DIV



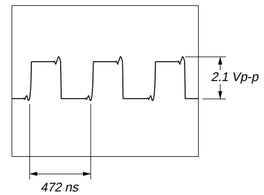
❹ IC601 ㉑ RFAC (CD PLAY)
100 mV/DIV, 500 ns/DIV



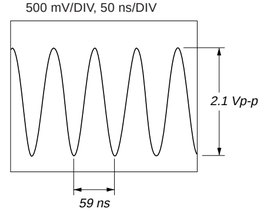
❺ IC601 ㉘ LRCK
1 V/DIV, 20 µs/DIV



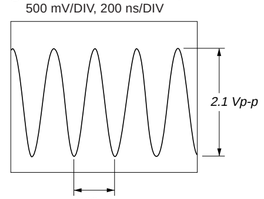
❻ IC601 ㉚ BCK
1 V/DIV, 200 ns/DIV



❼ IC601 ㉞ XTAO
500 mV/DIV, 50 ns/DIV



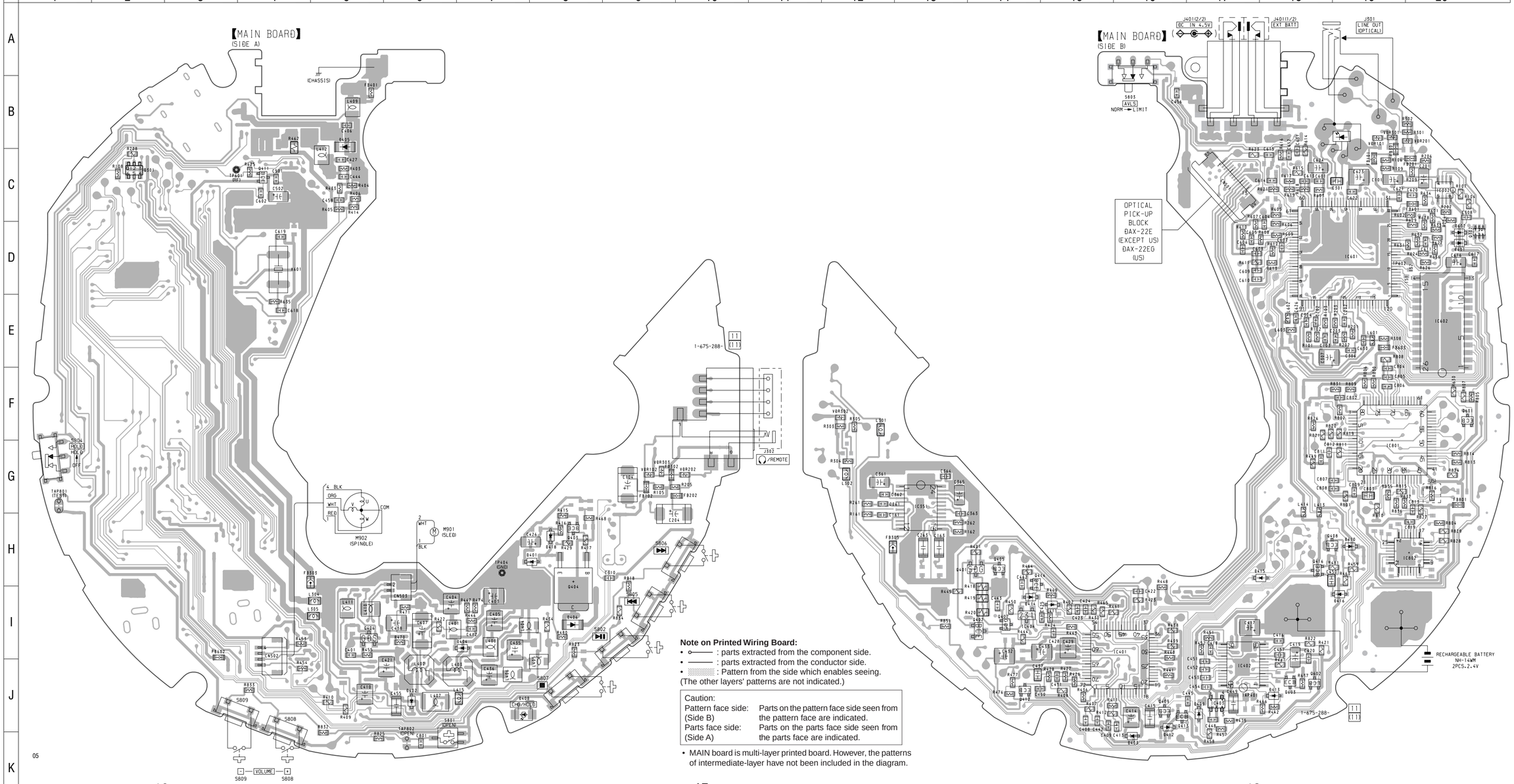
❽ IC801 ⑲ XIN, IC802 ⑩ MCLK
500 mV/DIV, 200 ns/DIV



5-4. PRINTED WIRING BOARD

- **Semiconductor Location**

Ref. No.	Location
D401	H-8
D402	J-6
D403	K-16
D404	I-7
D405	B-5
D406	I-8
D408	J-7
D409	J-17
D410	H-19
D411	I-15
D412	J-16
D413	J-18
D414	I-14
D415	H-18
D416	I-19
D601	D-20
D602	D-20
IC302	C-20
IC351	G-13
IC401	J-16
IC402	J-17
IC403	J-17
IC404	I-14
IC601	D-19
IC602	E-20
IC801	F-19
IC802	H-20
Q301	C-2
Q302	D-20
Q401	H-14
Q402	I-14
Q403	H-8
Q404	H-8
Q405	H-14
Q406	I-5
Q407	I-14
Q408	H-18
Q409	J-16
Q411	C-4
Q412	J-14
Q413	J-16
Q414	H-14
Q416	H-18
Q601	F-20
Q602	J-18
Q603	J-18



Note on Printed Wiring Board:

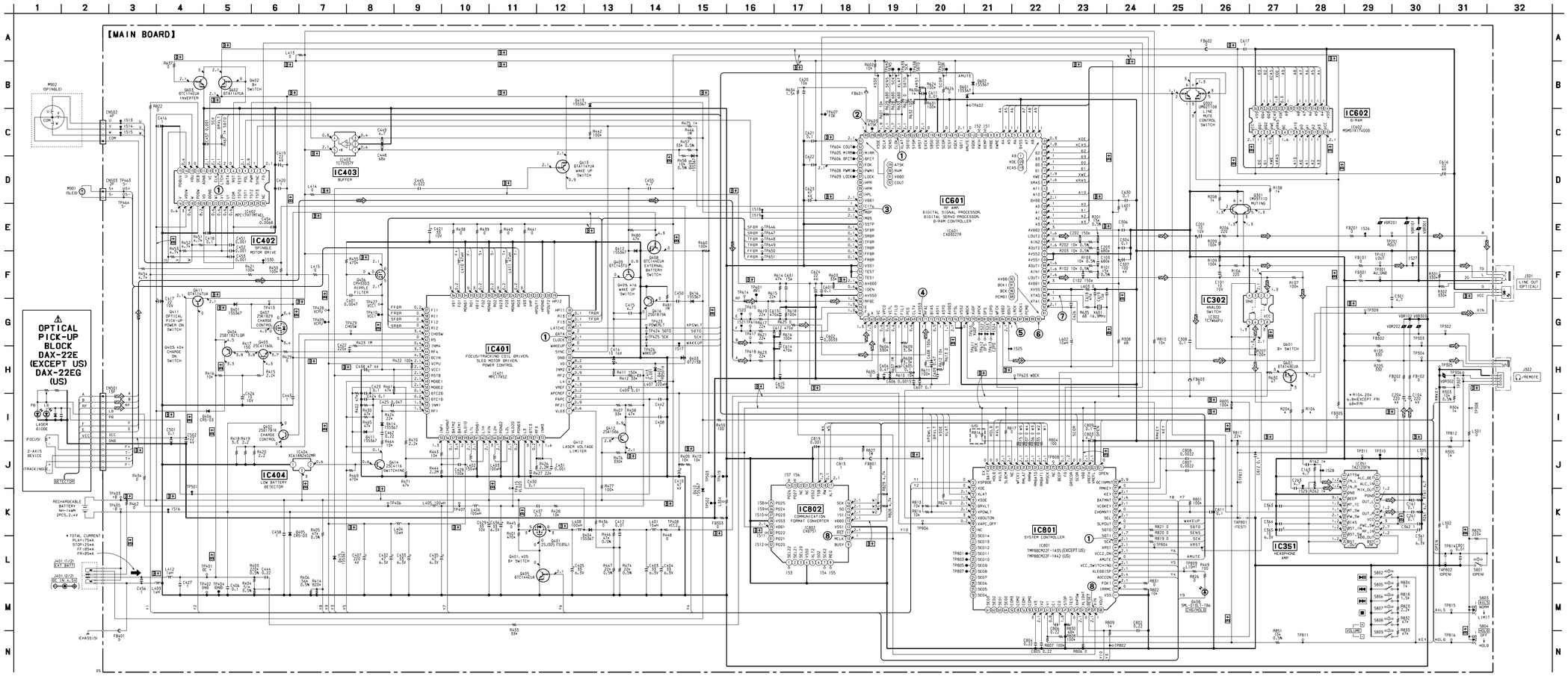
- ——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

- MAIN board is multi-layer printed board. However, the patterns of intermediate-layer have not been included in the diagram.

5-5. SCHEMATIC DIAGRAM • See page 15 for Waveforms. • See page 23 for IC Block Diagrams.



Note on Schematic Diagram:

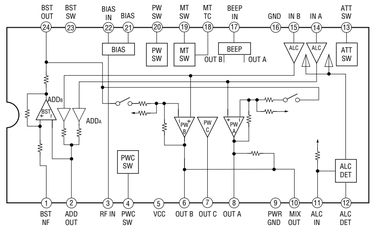
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- % : indicates tolerance.
- ▭ : panel designation.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

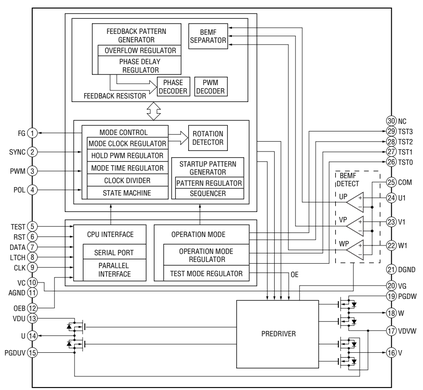
- B+ : B+ Line.
- Power voltage is dc 4.5 V and fed with regulated dc power supply from DC IN jack (J401).
- Voltages and waveforms are dc with respect to ground in playback mode.
  no mark : CD PLAY
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD PLAY (ANALOG OUT)
  ⇨ : CD PLAY (OPTICAL OUT)
- Abbreviation
  FR : French model

• **IC Block Diagrams**

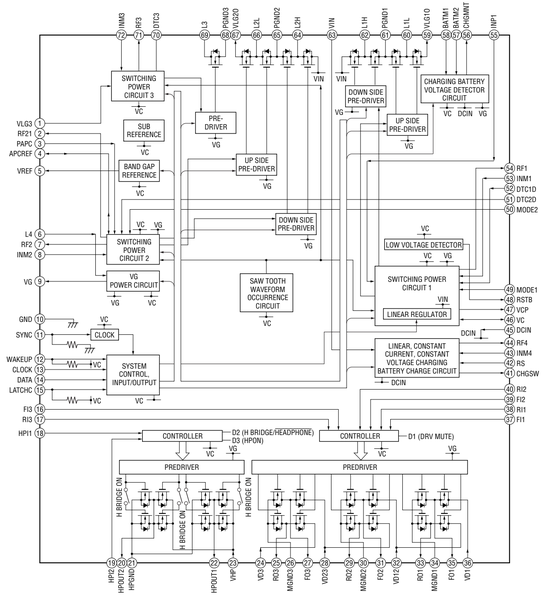
IC351 TA2120FN (EL)



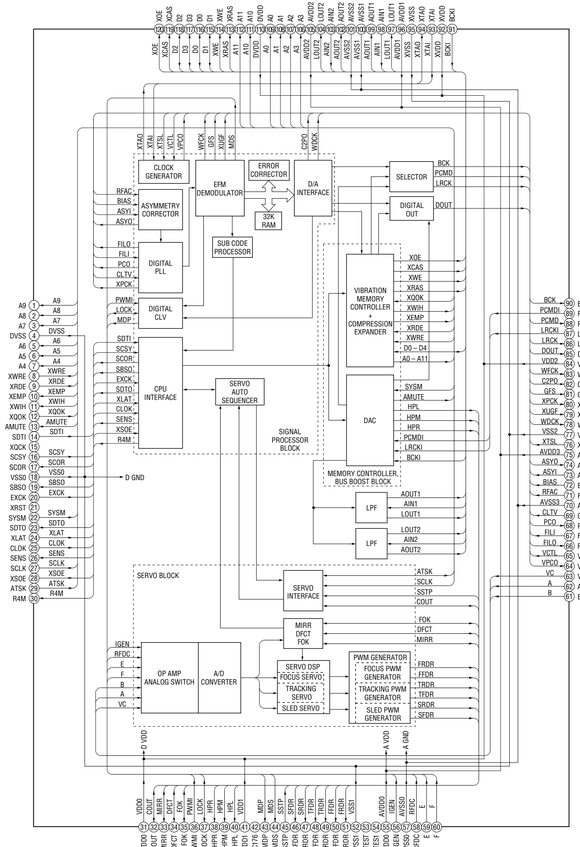
IC402 MPC17H71MTAEL



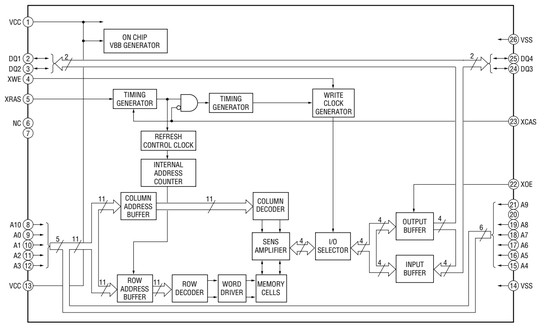
IC401 MPC17A52ZFTA



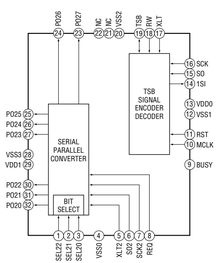
IC601 CXD3027R



IC602 MSM51X17400D-10TFSR1



IC802 CXD751-103R



5-6. IC PIN FUNCTION DESCRIPTION

- **IC801 (SYSTEM CONTROLLER) TMP88CM22F-1A35 (EXCEPT US), TMP88CM22F-1A42 (US)**

Pin No.	Pin Name	I/O	Description
1	VSS	—	Ground terminal
2	IRRMC	I	Not used (Fixed at "L")
3	FOKI	I	Focus OK signal input from the digital servo processor (IC601) "L": NG, "H": OK
4	AGCCON	O	AGC control pulse signal output terminal
5	XLEDDISP	O	CHG/HOLD LED control signal output terminal
6	VCC SWITCHING	O	Control signal output terminal for the switching power supply circuit
7	AMUTE	O	Analog audio muting ON/OFF control signal output terminal "H": muting ON
8	VCC2 ON	O	VCC2 voltage control signal output terminal
9	XRST	O	Reset signal output to the CXD3027R (IC601) "L": reset
10	SCK	O	Serial data transfer clock signal output to the CXD3027R (IC601)
11	SDTI	I	Serial data input from the CXD3027R (IC601)
12	SDTO	O	Serial data output to the CXD3027R (IC601)
13	SLPOUT	O	WAKE-UP control signal output terminal (for system standby reset)
14	SEL	I	Plug-in detection signal input terminal of LINE OUT/OPTICAL OUT
15	CHGMNT1	I	Battery charge voltage detection input from the power control (IC401)
16	VCDKEY	I	Key input terminal Not used (Fixed at "H")
17	BATMNT	I	Battery voltage detection signal input terminal
18	KEY	I	Key input from the S802, S805 to S809 (▶II, ▶▶I, I◀◀, ■, VOLUME +/–) (A/D input)
19	RMKEY	I	Key input from the headphone with remote commander (A/D input)
20	DCINMNT	I	DC input voltage detection input terminal (A/D input) and DC input jack use/no use detection input terminal
21	OPEN	I	CD door open/close detection switch (S801) input terminal The stop status is reset with the falling edge of input signal
22	VREFL	I	Reference voltage input terminal (0V) for A/D converter
23	VREFH	I	Reference voltage input terminal (+2V) for A/D converter
24	VDD	—	Power supply terminal (+2V)
25	SCOR	I	Sub-code sync (S0+S1) detection signal input from the CXD3027R (IC601)
26	GRSCOR	I	GRSCOR signal input from the CXD3027R (IC601)
27	FG	I	FG pulse signal input from the spindle motor driver (IC402)
28	BEEP	O	Beep sound output to the headphone amplifier (IC351)
29	NC	—	Not used (open)
30	RMSCK	O	Communication clock output to the communication format converter (IC802)
31	RMDATI	I	Communication data bus input of headphone with remote commander from the communication format converter (IC802)
32	RMDATO	O	Communication data bus output of headphone with remote commander to the communication format converter (IC802)
33	RMRW	O	Read/write control signal output of headphone with remote commander to the communication format converter (IC802) "L": read mode, "H": write mode
34	RMLAT	O	Serial data latch pulse signal output of headphone with remote commander to the communication format converter (IC802)
35	WFCKI	I	WFCK signal input from the CXD3027R (IC601)
36	NC	—	Not used (open) (Only US model: pull up)
37	SL8CM	I	Not used (Fixed at "H")
38	AVLS	I	AVLS (Automatic Volume Limiter System) switch (S803) input terminal "L": normal mode, "H": limit mode

Pin No.	Pin Name	I/O	Description
39	HOLD	I	HOLD switch (S804) input terminal "L": hold ON, "H": hold OFF
40	EX BATT	I	External battery detection signal input terminal
41	XSPDOE	O	Control signal output to the spindle motor driver (IC402)
42	XOE	O	Optical pick-up power ON/OFF control signal output terminal "L": ON
43	XLAT	O	Serial data latch pulse signal output to the CXD3027R (IC601)
44	XSOE	O	Serial data output enable signal output terminal
45	DRVLT	O	Latch signal output to the spindle motor driver (IC402)
46	XPOWLT	O	Latch signal output to the power control (IC401)
47	XDOUTON	O	Digital output LED control signal output terminal "L": ON
48	XAPC OFF	O	APC mute signal output terminal "L": mute
49	NC	—	Not used (open)
50 to 64	SEG14 to SEG0	O	Segment drive signal output to the liquid crystal display Not used (open)
65 to 68	COM3 to COM1	O	Common drive signal output to the liquid crystal display Not used (open)
69 to 71	V3 to V1	O	Bias signal output to the liquid crystal display driver Not used
72, 73	C1, C0	O	Capacitor connected terminal for the liquid crystal display driver voltage-up
74	STOP	O	VCD control stop signal output terminal Not used (Fixed at "L")
75	TEST	I	Test terminal for IC (Fixed at "L")
76	XHPSW	O	ON/OFF control signal output to the headphone amplifier (IC351)
77	XLIGHT	O	LCD back light control signal output to the liquid crystal display Not used (Fixed at "L")
78	$\overline{\text{RESET}}$	I	System reset signal input from the power control (IC401) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
79	XIN	I	System clock input terminal
80	XOUT	O	System clock input terminal Not used (open)

SECTION 6
EXPLODED VIEWS

NOTE:

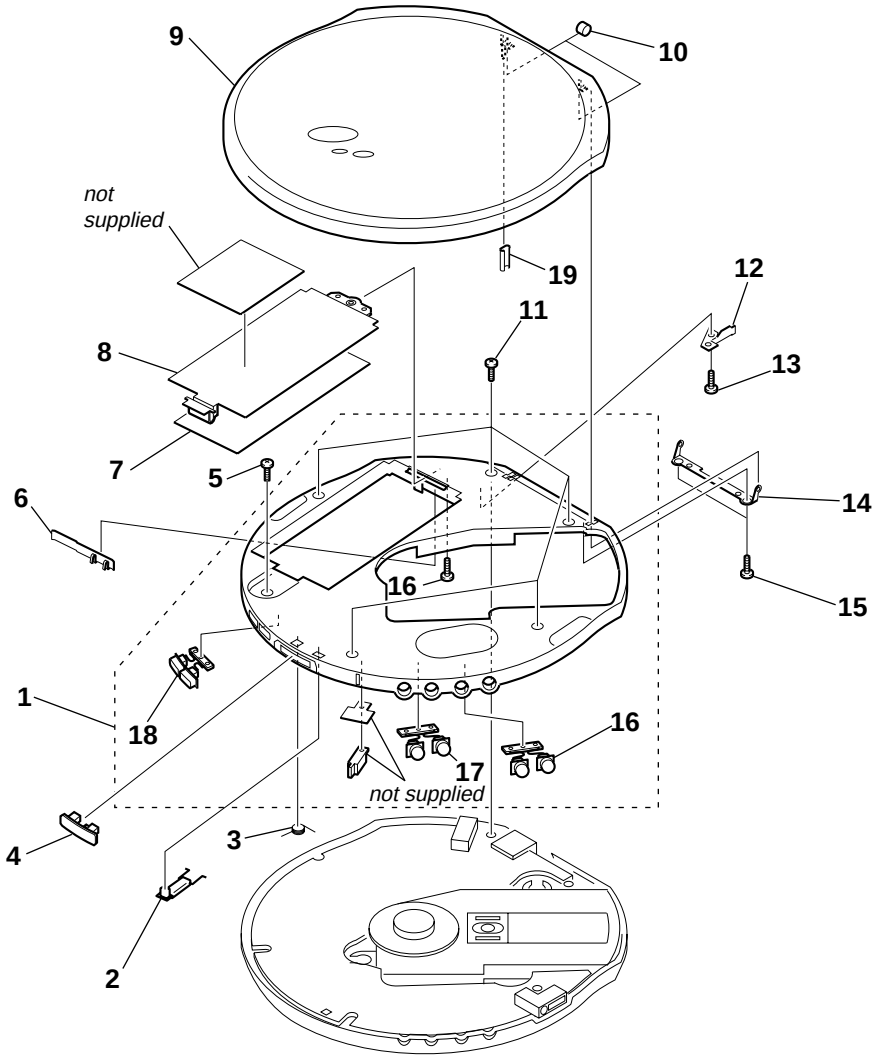
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of the electrical parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

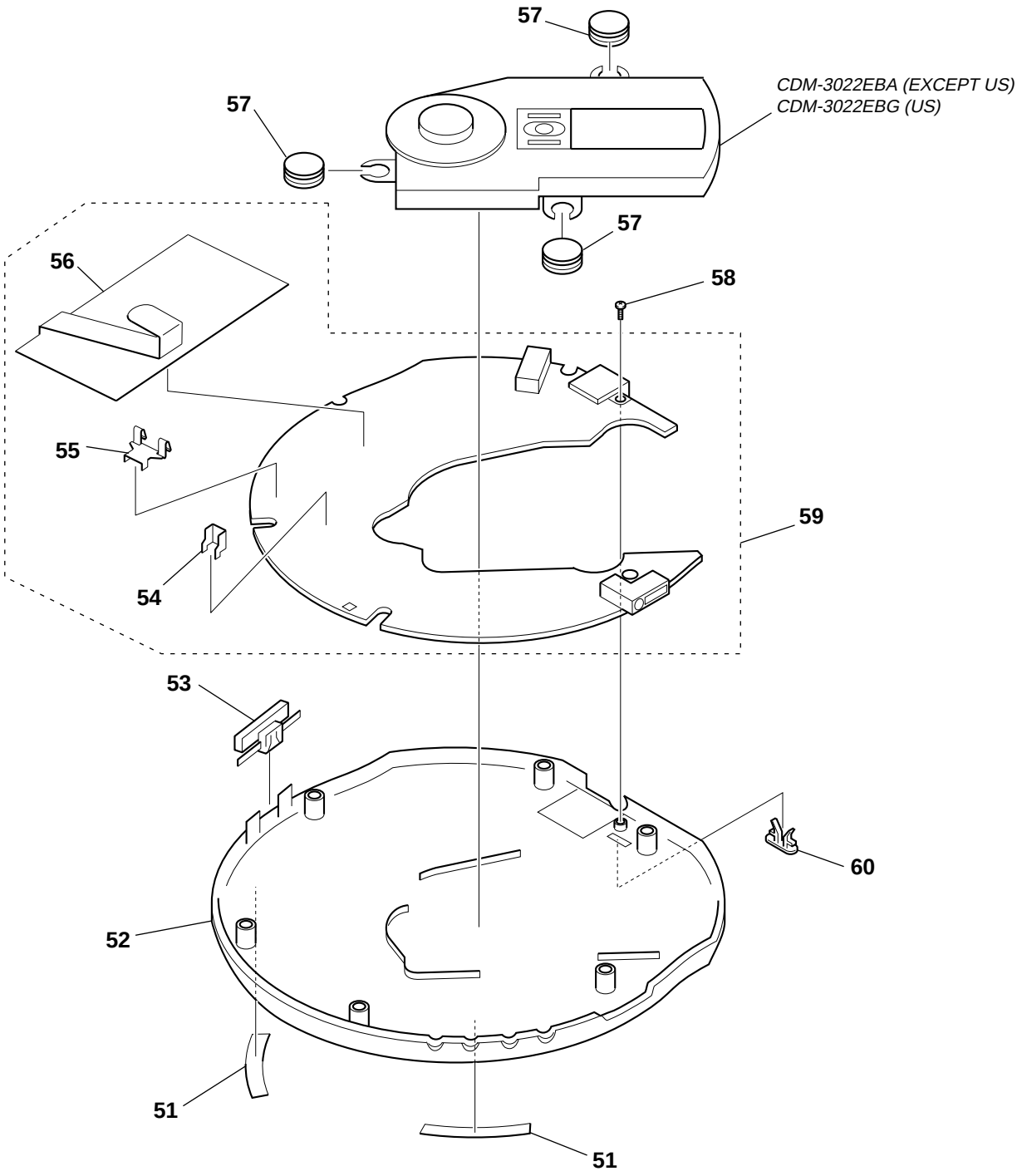
- Abbreviation
  CH : Chinese model
  CND : Canadian model
  E13 : 220 – 230 V AC area in E model
  E33 : 100 – 240 V AC area in E model
  FR : French model
  G : German model
  HK : Hong Kong model
  JE : Tourist model

(1) CABINET SECTION-1



Ref. No.	Part No.	Description	Remark
1	X-4952-197-1	CABINET (UPPER) SUB ASSY	
2	4-224-036-01	LEVER, DETECTION	
3	4-224-035-01	SPRING (OPEN)	
4	4-224-031-01	KNOB (OPEN)	
5	4-908-792-51	SCREW (B2)	
6	4-224-026-01	TERMINAL BOARD (RELAY), BATTERY	
7	4-224-044-01	SHEET (UPPER), BATTERY	
8	X-4952-199-1	LID ASSY, BATTERY CASE	
9	X-4952-434-1	LID ASSY, UPPER (EJ915:AEP, UK, FR, G)	
9	X-4952-206-1	LID ASSY, UPPER (E990/EJ915:US, CND, E13, E33, HK, CH)	
10	4-224-227-01	SPACER	
11	4-908-792-91	SCREW (B2)	
12	4-224-032-01	PLATE, CLICK	
13	3-318-382-91	SCREW (1.7X2.5), TAPPING	
14	4-224-046-01	BRACKET	
15	4-908-792-01	SCREW (B2)	
16	4-224-029-01	BUTTON (FF)	
17	4-224-030-01	BUTTON (PLAY)	
18	4-224-028-01	BUTTON (VOL)	
19	3-044-608-01	REINFORCEMENT	

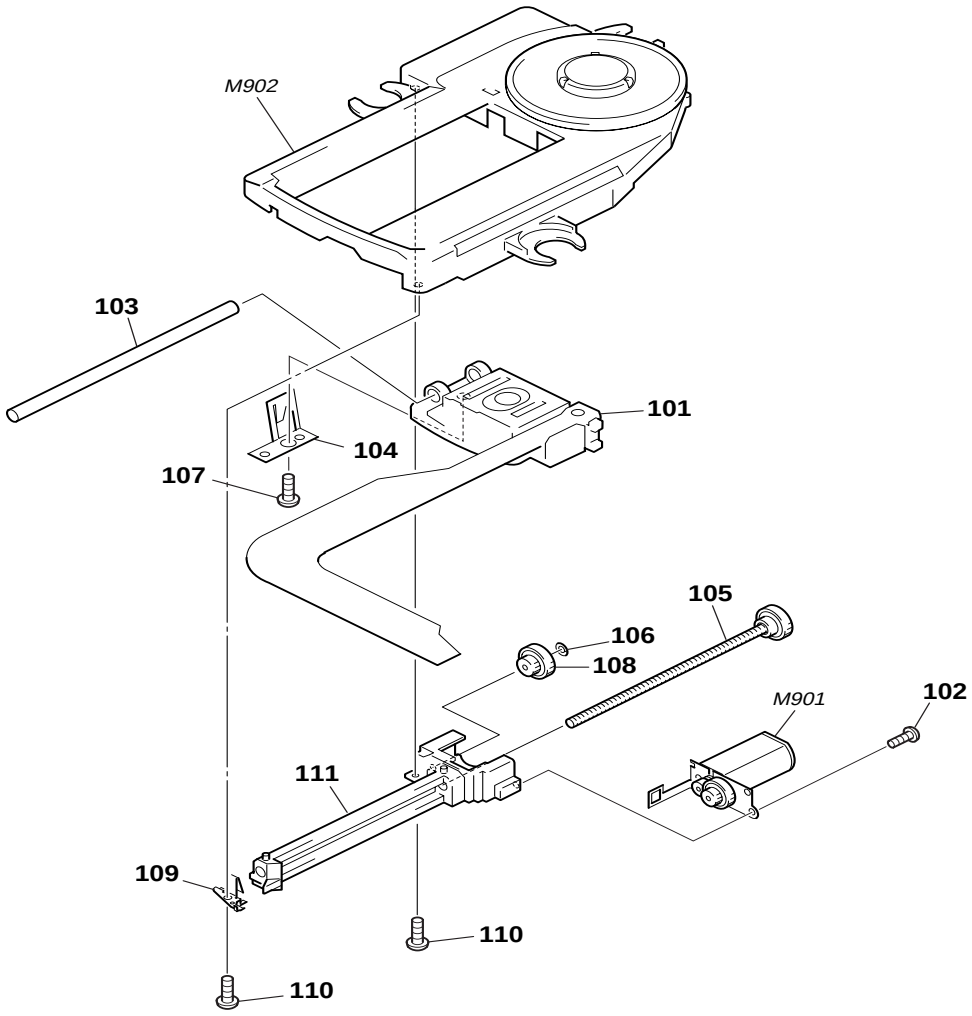
(2) CABINET SECTION-2



Ref. No.	Part No.	Description	Remark
51	4-224-048-01	FOOT, RUBBER	
52	4-224-039-01	CABINET (LOWER) (E990)	
52	4-224-039-11	CABINET (LOWER) (EJ915: US, CND, AEP, UK, E33, FR, G)	
52	4-224-039-21	CABINET (REAR) (EJ915: E13, HK, CH)	
53	4-224-040-01	KNOB (HOLD)	
54	4-224-024-01	TERMINAL BOARD (+), BATTERY	
55	4-224-025-01	TERMINAL BOARD (-), BATTERY	

Ref. No.	Part No.	Description	Remark
56	4-224-045-01	SHEET (LOWER), BATTERY	
57	4-221-927-11	INSULATOR	
58	3-318-201-01	SCREW (B) (1.4X3), TAPPING	
59	A-3323-345-A	MAIN BOARD, COMPLETE (CND, AEP, UK, E13, E33, G, HK, CH)	
59	A-3323-360-A	MAIN BOARD, COMPLETE (FR)	
59	A-3323-458-A	MAIN BOARD, COMPLETE (US)	
60	4-984-751-01	KNOB (AVLS)	

(3) MECHANISM DECK SECTION (CDM-3022EBA EXCEPT US) (CDM-3022EBG US)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
⚠101	X-3378-495-1	OPTICAL PICK-UP (DAX-22EG) (US)	
⚠101	X-4952-079-1	OPTICAL PICK-UP (DAX-22E) (EXCEPT US)	
102	3-704-197-92	SCREW (M1.4X1.8), LOCKING	
103	4-220-645-01	SHAFT, STANDARD	
104	4-220-646-01	RACK	
105	A-3328-298-A	SCREW ASSY, FEED	
106	3-338-645-31	WASHER (0.8-2.5)	
107	3-686-458-03	SCREW (P1.4X3.5), TAPPING	
108	4-220-648-01	GEAR (C)	
109	X-4951-688-1	BRACKET ASSY, SLED	
110	3-348-998-61	SCREW (M1.4X4), TAPPING, PAN	
111	X-4951-687-1	BASE ASSY, SLED	
M901	A-3328-299-A	MOTOR BLOCK ASSY, SLED	
M902	A-3328-418-A	CHASSIS ASSY	

MAIN

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Abbreviation
  CH : Chinese model
  CND : Canadian model
  E13 : 220 – 230 V AC area in E model
  E33 : 100 – 240 V AC area in E model
  FR : French model
  G : German model
  HK : Hong Kong model
  JE : Tourist model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	A-3323-345-A	MAIN BOARD, COMPLETE (CND, AEP, UK, E13, E33, G, HK, CH)			
	A-3323-360-A	MAIN BOARD, COMPLETE (FR)			
	A-3323-458-A	MAIN BOARD, COMPLETE (US)			
		**********			
	4-224-024-01	TERMINAL BOARD (+), BATTERY			
	4-224-025-01	TERMINAL BOARD (-), BATTERY			
	4-224-045-01	SHEET (LOWER), BATTERY			
		< CAPACITOR >			
C101	1-104-851-11	TANTALUM CHIP	10uF	20%	10V
C102	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C103	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C104	1-125-899-11	TANTALUM CHIP	220uF	20%	4V
C161	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C163	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C201	1-104-851-11	TANTALUM CHIP	10uF	20%	10V
C202	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C203	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C204	1-125-899-11	TANTALUM CHIP	220uF	20%	4V
C261	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C263	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C301	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C304	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C306	1-115-156-11	CERAMIC CHIP	1uF		10V
C307	1-127-569-11	TANTALUM CHIP	100uF	20%	4V
C308	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C361	1-135-259-11	TANTALUM CHIP	10uF	20%	6.3V
C362	1-115-156-11	CERAMIC CHIP	1uF		10V
C363	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C364	1-115-156-11	CERAMIC CHIP	1uF		10V
C365	1-135-259-11	TANTALUM CHIP	10uF	20%	6.3V
C401	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C403	1-104-752-11	TANTALUM CHIP	33uF	20%	6.3V
C404	1-104-752-11	TANTALUM CHIP	33uF	20%	6.3V
C405	1-104-752-11	TANTALUM CHIP	33uF	20%	6.3V
C406	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C407	1-125-899-11	TANTALUM CHIP	220uF	20%	4V
C408	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C409	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

Ref. No.	Part No.	Description			Remark
C410	1-110-569-11	TANTALUM CHIP	47uF	20%	4V
C412	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C413	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C414	1-104-913-11	TANTALUM CHIP	10uF	20%	16V
C415	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C416	1-115-156-11	CERAMIC CHIP	1uF		10V
C417	1-104-852-11	TANTALUM CHIP	22uF	20%	10V
C418	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C419	1-104-847-11	TANTALUM CHIP	22uF	20%	4V
C420	1-115-156-11	CERAMIC CHIP	1uF		10V
C421	1-113-682-11	TANTALUM CHIP	33uF	20%	10V
C422	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C423	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C424	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C425	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C426	1-104-851-11	TANTALUM CHIP	10uF	20%	10V
C427	1-115-156-11	CERAMIC CHIP	1uF		10V
C428	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C429	1-113-682-11	TANTALUM CHIP	33uF	20%	10V
C430	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C431	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C432	1-110-569-11	TANTALUM CHIP	47uF	20%	6.3V
C433	1-104-752-11	TANTALUM CHIP	33uF	20%	6.3V
C435	1-110-569-11	TANTALUM CHIP	47uF	20%	6.3V
C436	1-104-752-11	TANTALUM CHIP	33uF	20%	6.3V
C437	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C438	1-110-569-11	TANTALUM CHIP	47uF	20%	4V
C442	1-115-156-11	CERAMIC CHIP	1uF		10V
C443	1-115-156-11	CERAMIC CHIP	1uF		10V
C444	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C445	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C448	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C449	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C450	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C451	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C452	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C453	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C454	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C455	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C456	1-115-156-11	CERAMIC CHIP	1uF		10V

Ref. No.	Part No.	Description			Remark
C457	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C458	1-115-156-11	CERAMIC CHIP	1uF		10V
C462	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C501	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C502	1-104-847-11	TANTALUM CHIP	22uF	20%	4V
C601	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C602	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C604	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C605	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C606	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C607	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C608	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C609	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C611	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C612	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C613	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C614	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C615	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C616	1-104-847-11	TANTALUM CHIP	22uF	20%	4V
C617	1-115-156-11	CERAMIC CHIP	1uF		10V
C618	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C619	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C620	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C621	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C622	1-115-156-11	CERAMIC CHIP	1uF		10V
C623	1-110-569-11	TANTALUM CHIP	47uF	20%	4V
C624	1-104-847-11	TANTALUM CHIP	22uF	20%	4V
C626	1-115-156-11	CERAMIC CHIP	1uF		10V
C630	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C631	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C801	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C802	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C803	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C804	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C805	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C806	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C807	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C808	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C809	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C811	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C812	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C813	1-115-156-11	CERAMIC CHIP	1uF		10V
C819	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN501	1-573-922-21	CONNECTOR, FFC/FPC (ZIF) 13P			
* CN502	1-785-877-21	HOUSING, CONNECTOR 4P			
CN503	1-784-342-21	HOUSING, CONNECTOR 2P			
		< DIODE >			
D401	8-719-049-09	DIODE 1SS367-T3SONY			
D402	8-719-058-24	DIODE RB501V-40TE-17			
D403	8-719-977-40	DIODE DTZ13B			
D404	8-719-049-09	DIODE 1SS367-T3SONY			
D405	8-719-077-01	DIODE CRS03 (TE85L)			
D406	8-719-077-01	DIODE CRS03 (TE85L)			
D408	8-719-078-28	LED SML-010LT-T86 (CHG/HOLD)			
D409	8-719-049-09	DIODE 1SS367-T3SONY			
D410	8-719-049-09	DIODE 1SS367-T3SONY			
D411	8-719-049-09	DIODE 1SS367-T3SONY			
D412	8-719-049-09	DIODE 1SS367-T3SONY			
D413	8-719-049-09	DIODE 1SS367-T3SONY			
D414	8-719-049-09	DIODE 1SS367-T3SONY			
D415	8-719-049-09	DIODE 1SS367-T3SONY			
D416	8-719-049-09	DIODE 1SS367-T3SONY			
D601	8-719-049-09	DIODE 1SS367-T3SONY			
D602	8-719-049-09	DIODE 1SS367-T3SONY			
		< FERRITE BEAD/RESISTOR >			
FB101	1-216-864-11	METAL CHIP	0	5%	1/16W
FB102	1-216-864-11	METAL CHIP	0	5%	1/16W
FB201	1-216-864-11	METAL CHIP	0	5%	1/16W
FB202	1-216-864-11	METAL CHIP	0	5%	1/16W
FB301	1-216-864-11	METAL CHIP	0	5%	1/16W
FB302	1-414-760-21	FERRITE	0uH		
FB303	1-216-295-00	SHORT	0		
FB305	1-216-295-00	SHORT	0		
FB401	1-216-864-11	METAL CHIP	0	5%	1/16W
FB601	1-500-238-22	FERRITE	0uH		
FB602	1-216-864-11	METAL CHIP	0	5%	1/16W
FB603	1-216-864-11	METAL CHIP	0	5%	1/16W
FB801	1-216-864-11	METAL CHIP	0	5%	1/16W
		< IC >			
IC302	8-759-488-29	IC TC7W66FU (TE12R)			
IC351	8-759-522-87	IC TA2120FN (EL)			
IC401	8-759-655-73	IC MPC17A52ZFTA			
IC402	8-759-594-58	IC MPC17H71MTAEL			
IC403	8-759-594-55	IC TC75S57F (TE85R)			
IC404	8-759-653-10	IC XC61AN2402MR			
IC601	8-752-398-18	IC CXD3027R			
IC602	8-759-594-56	IC MSM51X17400D-10TFSR1			
IC801	8-759-647-93	IC TMP88CM22F-1A35 (EXCEPT US)			
IC801	8-759-658-92	IC TMP88CM22F-1A42 (US)			
IC802	8-752-397-55	IC CXD751-103R			
		< JACK >			
J301	1-793-659-11	JACK, OPTICAL OUT (LINE OUT (OPTICAL))			
J302	1-793-288-21	JACK (🎧/REMOTE)			
J401	1-793-156-12	JACK, DC (EXT BATT/DC IN 4.5V)			
		< COIL/RESISTOR >			
L301	1-216-295-00	SHORT	0		
L302	1-216-295-00	SHORT	0		
L304	1-216-295-00	SHORT	0		
L305	1-216-295-00	SHORT	0		
L401	1-414-398-11	INDUCTOR	10uH		
L402	1-419-189-21	INDUCTOR	150uH		
L403	1-419-188-21	INDUCTOR	100uH		
L404	1-414-398-11	INDUCTOR	10uH		
L405	1-414-404-41	INDUCTOR	100uH		
L406	1-414-404-41	INDUCTOR	100uH		
L407	1-414-435-21	INDUCTOR	220uH		
L408	1-414-404-41	INDUCTOR	100uH		
L409	1-414-392-41	INDUCTOR	1uH		

MAIN

Ref. No.	Part No.	Description			Remark
L410	1-414-402-11	INDUCTOR	47uH		
L411	1-414-402-11	INDUCTOR	47uH		
L412	1-414-392-41	INDUCTOR	1uH		
L413	1-216-864-11	METAL CHIP	0	5%	1/16W
L414	1-216-864-11	METAL CHIP	0	5%	1/16W
L415	1-216-295-00	SHORT	0		
L601	1-216-864-11	METAL CHIP	0	5%	1/16W
L602	1-414-521-11	INDUCTOR CHIP	10uH		
L603	1-216-864-11	METAL CHIP	0	5%	1/16W
		< TRANSISTOR >			
Q301	8-729-043-90	TRANSISTOR	IMX9T110		
Q302	8-729-930-00	TRANSISTOR	UMD2		
Q401	8-729-023-89	FET	2SJ305 (TE85L)		
Q402	8-729-921-73	TRANSISTOR	2SD1781K-QR		
Q403	8-729-231-74	TRANSISTOR	2SC4116GL		
Q404	8-729-921-93	TRANSISTOR	2SB1182F5-QR		
Q405	8-729-029-14	TRANSISTOR	DTC144EUA-T106		
Q406	8-729-047-36	FET	CPH3303-TL		
Q407	8-729-028-26	FET	2SK1829 (TE85L)		
Q408	8-729-029-14	TRANSISTOR	DTC144EUA-T106		
Q409	8-729-029-10	TRANSISTOR	DTC143TUA-T106		
Q411	8-729-028-74	TRANSISTOR	DTA114TUA-T106		
Q412	8-729-230-60	TRANSISTOR	2SA1586-YG		
Q413	8-729-028-76	TRANSISTOR	DTA114YUA-T106		
Q414	8-729-231-74	TRANSISTOR	2SC4116-GL		
Q416	8-729-230-63	TRANSISTOR	2SC4116-YG		
Q601	8-729-028-86	TRANSISTOR	DTA143EUA-T106		
Q602	8-729-028-76	TRANSISTOR	DTA114YUA-T106		
Q603	8-729-907-00	TRANSISTOR	DTC114EU		
		< RESISTOR >			
R101	1-218-875-11	METAL CHIP	15K	0.5%	1/16W
R102	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R103	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R104	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (EXCEPT FR)
R104	1-216-843-11	METAL CHIP	68K	5%	1/16W (FR)
R105	1-216-815-11	METAL CHIP	330	5%	1/16W
R106	1-216-813-11	METAL CHIP	220	5%	1/16W
R107	1-216-845-11	METAL CHIP	100K	5%	1/16W
R108	1-216-821-11	METAL CHIP	1K	5%	1/16W
R109	1-216-845-11	METAL CHIP	100K	5%	1/16W
R161	1-216-793-11	RES, CHIP	4.7	5%	1/16W
R162	1-216-821-11	METAL CHIP	1K	5%	1/16W
R201	1-218-875-11	METAL CHIP	15K	0.5%	1/16W
R202	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R203	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R204	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (EXCEPT FR)
R204	1-216-843-11	METAL CHIP	68K	5%	1/16W (FR)
R205	1-216-815-11	METAL CHIP	330	5%	1/16W
R206	1-216-813-11	METAL CHIP	220	5%	1/16W
R207	1-216-845-11	METAL CHIP	100K	5%	1/16W
R208	1-216-821-11	METAL CHIP	1K	5%	1/16W
R209	1-216-845-11	METAL CHIP	100K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R261	1-216-793-11	RES, CHIP	4.7	5%	1/16W
R262	1-216-821-11	METAL CHIP	1K	5%	1/16W
R301	1-216-851-11	METAL CHIP	330K	5%	1/16W
R302	1-216-851-11	METAL CHIP	330K	5%	1/16W
R303	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R304	1-216-821-11	METAL CHIP	1K	5%	1/16W
R305	1-216-821-11	METAL CHIP	1K	5%	1/16W
R308	1-216-807-11	METAL CHIP	68	5%	1/16W
R401	1-216-853-11	METAL CHIP	470K	5%	1/16W
R402	1-216-841-11	METAL CHIP	47K	5%	1/16W
R403	1-218-903-11	METAL CHIP	220K	0.5%	1/16W
R404	1-218-888-11	METAL CHIP	51K	0.5%	1/16W
R405	1-218-887-11	METAL CHIP	47K	0.5%	1/16W
R406	1-218-889-11	METAL CHIP	56K	0.5%	1/16W
R407	1-216-839-11	METAL CHIP	33K	5%	1/16W
R408	1-216-841-11	METAL CHIP	47K	5%	1/16W
R409	1-216-833-11	RES, CHIP	10K	5%	1/16W
R410	1-216-833-11	RES, CHIP	10K	5%	1/16W
R411	1-216-847-11	METAL CHIP	150K	5%	1/16W
R412	1-216-839-11	METAL CHIP	33K	5%	1/16W
R414	1-218-917-11	METAL CHIP	820K	0.5%	1/16W
R415	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R416	1-216-833-11	RES, CHIP	10K	5%	1/16W
R417	1-216-811-11	METAL CHIP	150	5%	1/16W
R418	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R419	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R420	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R421	1-216-845-11	METAL CHIP	100K	5%	1/16W
R422	1-216-845-11	METAL CHIP	100K	5%	1/16W
R423	1-216-857-11	METAL CHIP	1M	5%	1/16W
R424	1-216-837-11	METAL CHIP	22K	5%	1/16W
R426	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R427	1-216-837-11	METAL CHIP	22K	5%	1/16W
R428	1-216-833-11	RES, CHIP	10K	5%	1/16W
R429	1-216-864-11	METAL CHIP	0	5%	1/16W
R430	1-216-841-11	METAL CHIP	47K	5%	1/16W
R433	1-216-839-11	METAL CHIP	33K	5%	1/16W
R434	1-216-864-11	METAL CHIP	0	5%	1/16W
R436	1-216-864-11	METAL CHIP	0	5%	1/16W
R438	1-216-864-11	METAL CHIP	0	5%	1/16W
R439	1-216-864-11	METAL CHIP	0	5%	1/16W
R440	1-216-864-11	METAL CHIP	0	5%	1/16W
R441	1-216-864-11	METAL CHIP	0	5%	1/16W
R442	1-216-845-11	METAL CHIP	100K	5%	1/16W
R443	1-216-833-11	RES, CHIP	10K	5%	1/16W
R444	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R445	1-216-864-11	METAL CHIP	0	5%	1/16W
R446	1-218-887-11	METAL CHIP	47K	0.5%	1/16W
R447	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
R448	1-216-864-11	METAL CHIP	0	5%	1/16W
R449	1-216-809-11	METAL CHIP	100	5%	1/16W
R450	1-216-845-11	METAL CHIP	100K	5%	1/16W
R451	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R452	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R453	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R454	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R455	1-216-853-11	METAL CHIP	470K	5%	1/16W
R457	1-218-883-11	METAL CHIP	33K	0.5%	1/16W

Ref. No.	Part No.	Description			Remark
R458	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R459	1-216-809-11	METAL CHIP	100	5%	1/16W
R460	1-216-845-11	METAL CHIP	100K	5%	1/16W
R461	1-216-841-11	METAL CHIP	47K	5%	1/16W
R462	1-216-295-00	SHORT	0		
R464	1-216-833-11	RES, CHIP	10K	5%	1/16W
R465	1-216-841-11	METAL CHIP	47K	5%	1/16W
R466	1-216-857-11	METAL CHIP	1M	5%	1/16W
R467	1-216-821-11	METAL CHIP	1K	5%	1/16W
R469	1-216-853-11	METAL CHIP	470K	5%	1/16W
R470	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R471	1-216-841-11	METAL CHIP	47K	5%	1/16W
R474	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
R475	1-216-821-11	METAL CHIP	1K	5%	1/16W
R476	1-216-851-11	METAL CHIP	330K	5%	1/16W
R477	1-216-845-11	METAL CHIP	100K	5%	1/16W
R480	1-216-841-11	METAL CHIP	47K	5%	1/16W
R481	1-216-857-11	METAL CHIP	1M	5%	1/16W
R601	1-216-833-11	RES, CHIP	10K	5%	1/16W
R602	1-216-833-11	RES, CHIP	10K	5%	1/16W
R603	1-216-839-11	METAL CHIP	33K	5%	1/16W
R605	1-216-864-11	METAL CHIP	0	5%	1/16W
R606	1-216-851-11	METAL CHIP	330K	5%	1/16W
R607	1-216-857-11	METAL CHIP	1M	5%	1/16W
R608	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R609	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R610	1-216-833-11	RES, CHIP	10K	5%	1/16W
R611	1-216-845-11	METAL CHIP	100K	5%	1/16W
R612	1-216-833-11	RES, CHIP	10K	5%	1/16W
R613	1-216-864-11	METAL CHIP	0	5%	1/16W
R614	1-216-841-11	METAL CHIP	47K	5%	1/16W
R615	1-216-837-11	METAL CHIP	22K	5%	1/16W
R616	1-216-845-11	METAL CHIP	100K	5%	1/16W
R617	1-216-837-11	METAL CHIP	22K	5%	1/16W
R618	1-216-845-11	METAL CHIP	100K	5%	1/16W
R619	1-216-837-11	METAL CHIP	22K	5%	1/16W
R621	1-216-837-11	METAL CHIP	22K	5%	1/16W
R623	1-216-837-11	METAL CHIP	22K	5%	1/16W
R624	1-216-845-11	METAL CHIP	100K	5%	1/16W
R625	1-216-864-11	METAL CHIP	0	5%	1/16W
R626	1-216-864-11	METAL CHIP	0	5%	1/16W
R627	1-216-864-11	METAL CHIP	0	5%	1/16W
R628	1-216-819-11	METAL CHIP	680	5%	1/16W
R629	1-216-819-11	METAL CHIP	680	5%	1/16W
R630	1-216-805-11	METAL CHIP	47	5%	1/16W
R631	1-216-845-11	METAL CHIP	100K	5%	1/16W
R632	1-216-845-11	METAL CHIP	100K	5%	1/16W
R633	1-216-819-11	METAL CHIP	680	5%	1/16W
R634	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R635	1-216-807-11	METAL CHIP	68	5%	1/16W
R636	1-216-821-11	METAL CHIP	1K	5%	1/16W
R637	1-216-864-11	METAL CHIP	0	5%	1/16W
R801	1-216-845-11	METAL CHIP	100K	5%	1/16W
R802	1-216-833-11	RES, CHIP	10K	5%	1/16W
R804	1-216-809-11	METAL CHIP	100	5%	1/16W
R805	1-216-845-11	METAL CHIP	100K	5%	1/16W
R806	1-216-864-11	METAL CHIP	0	5%	1/16W
R807	1-216-845-11	METAL CHIP	100K	5%	1/16W
R808	1-216-845-11	METAL CHIP	100K	5%	1/16W
R809	1-216-821-11	METAL CHIP	1K	5%	1/16W
R810	1-216-833-11	RES, CHIP	10K	5%	1/16W
R811	1-216-837-11	METAL CHIP	22K	5%	1/16W
R813	1-216-833-11	RES, CHIP	10K	5%	1/16W
R814	1-216-833-11	RES, CHIP	10K	5%	1/16W
R815	1-216-864-11	METAL CHIP	0	5%	1/16W
R816	1-216-864-11	METAL CHIP	0	5%	1/16W (US)
R817	1-216-864-11	METAL CHIP	0	5%	1/16W
R818	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R819	1-216-864-11	METAL CHIP	0	5%	1/16W
R820	1-216-864-11	METAL CHIP	0	5%	1/16W
R821	1-216-864-11	METAL CHIP	0	5%	1/16W
R822	1-216-864-11	METAL CHIP	0	5%	1/16W
R823	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R824	1-216-864-11	METAL CHIP	0	5%	1/16W
R825	1-216-849-11	METAL CHIP	220K	5%	1/16W
R826	1-216-864-11	METAL CHIP	0	5%	1/16W
R827	1-216-857-11	METAL CHIP	1M	5%	1/16W
R828	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R829	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R830	1-216-843-11	METAL CHIP	68K	5%	1/16W
R831	1-216-864-11	METAL CHIP	0	5%	1/16W
R832	1-216-841-11	METAL CHIP	47K	5%	1/16W
R833	1-216-841-11	METAL CHIP	47K	5%	1/16W
R834	1-216-821-11	METAL CHIP	1K	5%	1/16W
R835	1-216-864-11	METAL CHIP	0	5%	1/16W
R836	1-216-864-11	METAL CHIP	0	5%	1/16W
R837	1-216-864-11	METAL CHIP	0	5%	1/16W
R851	1-218-871-11	METAL CHIP	10K	0.5%	1/16W

< SWITCH >

S801	1-762-805-41	SWITCH, PUSH (1 KEY) (OPEN)
S802	1-771-248-11	SWITCH, TACTILE (▶II)
S803	1-762-078-11	SWITCH, SLIDE (AVLS)
S804	1-762-078-11	SWITCH, SLIDE (HOLD)
S805	1-771-248-11	SWITCH, TACTILE (I◀◀)
S806	1-771-248-11	SWITCH, TACTILE (▶▶I)
S807	1-771-248-11	SWITCH, TACTILE (■)
S808	1-771-248-11	SWITCH, TACTILE (VOLUME +)
S809	1-771-248-11	SWITCH, TACTILE (VOLUME -)

< VARISTOR >

VDR101	1-801-923-11	VARISTOR, CHIP
VDR102	1-801-862-11	VARISTOR, CHIP
VDR201	1-801-923-11	VARISTOR, CHIP
VDR202	1-801-862-11	VARISTOR, CHIP
VDR301	1-801-923-11	VARISTOR, CHIP
VDR302	1-801-923-11	VARISTOR, CHIP
VDR303	1-801-862-11	VARISTOR, CHIP

< VIBRATOR >

X601	1-767-605-11	VIBRATOR, LITHIUM TANTALATE (16.9MHz)

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Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
⚠101	X-3378-495-1	OPTICAL PICK-UP (DAX-22EG) (US)	
⚠101	X-4952-079-1	OPTICAL PICK-UP (DAX-22E) (EXCEPT US)	
M901	A-3328-299-A	MOTOR BLOCK ASSY, SLED	
M902	A-3328-418-A	CHASSIS ASSY	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-418-608-11	CONTROL UNIT, REMOTE (RM-CD12EL)	
⚠	1-467-195-12	ADAPTOR, AC (AC-E455A) (EJ915: US, CND)	
⚠	1-467-550-24	ADAPTOR, AC (AC-E455A) (E990/EJ915: E33)	
⚠	1-473-115-11	ADAPTOR, AC (AC-E455D) (EJ915: UK)	
⚠	1-473-116-35	ADAPTOR, AC (AC-E455D)	(EJ915: AEP, E13, FR, G)
⚠	1-475-622-13	ADAPTOR, AC (AC-E455) (EJ915: CH)	
⚠	1-475-623-11	ADAPTOR, AC (AC-E455) (EJ915: HK)	
	1-756-036-11	BATTERY, NICKEL HYDROGEN	(E990/EJ915: US)
	1-569-007-11	ADAPTOR, CONVERSION 2P (E990/EJ915: E33)	
	1-756-008-11	CASE, BATTERY (E990/EJ915: US, CND, AEP, UK, E33, FR, G, HK, CH)	
	1-756-036-11	BATTERY, NICKEL HYDROGEN (EJ915: CND, AEP, UK, E13, E33, FR, G, HK, CH)	
	3-008-521-01	CASE, BATTERY CHARGE (E990/EJ915: US, CND, AEP, UK, E13, E33, G, HK, CH)	
	3-008-521-21	CASE, BATTERY CHARGE (EJ915: FR)	
	3-043-928-11	MANUAL, INSTRUCTION (ENGLISH)	(EJ915: US)
	3-867-738-01	MANUAL, INSTRUCTION (JAPANESE, ENGLISH, CHINESE, KOREAN) (E990)	
	3-867-738-11	MANUAL, INSTRUCTION (SPANISH)	(E990/EJ915: AEP, E33)
	3-867-738-21	MANUAL, INSTRUCTION (ENGLISH)	(E990/EJ915: US, CND, AEP, UK, E33, FR)
	3-867-738-31	MANUAL, INSTRUCTION (FRENCH)	(E990/EJ915: CND, AEP, FR)
	3-867-738-41	MANUAL, INSTRUCTION (DUTCH)	(EJ915: AEP)
	3-867-738-51	MANUAL, INSTRUCTION (SWEDISH)	(EJ915: AEP)
	3-867-738-61	MANUAL, INSTRUCTION (PORTUGUESE)	(EJ915: AEP)
	3-867-738-71	MANUAL, INSTRUCTION (GERMAN)	(EJ915: AEP,G)
	3-867-738-81	MANUAL, INSTRUCTION (ITALIAN)	(EJ915: AEP)
	3-867-738-91	MANUAL, INSTRUCTION (FINNISH)	(EJ915: AEP)
	3-867-739-11	MANUAL, INSTRUCTION (CHINESE)	(EJ915: E13,HK)
	3-867-739-21	MANUAL, INSTRUCTION (ENGLISH)	(EJ915: E13, HK, CH)
	3-867-739-31	MANUAL, INSTRUCTION (CHINESE)	(EJ915: CH)
	3-867-740-11	MANUAL, INSTRUCTION (RUSSIAN)	(EJ915: AEP)
	3-867-740-21	MANUAL, INSTRUCTION (CZECK)	(EJ915: AEP)
	3-867-740-31	MANUAL, INSTRUCTION (HUNGARIAN)	(EJ915: AEP)
	3-867-740-41	MANUAL, INSTRUCTION (POLISH)	(EJ915: AEP)
	3-867-740-51	MANUAL, INSTRUCTION (SLOVAKIAN)	(EJ915: AEP)
	3-044-132-01	CASE, CARRYING (US)	
	4-223-953-01	CASE (MIS), CARRYING (EXCEPT US)	
	8-953-276-90	HEADPHONE MDR-24SP SET (EJ915: US)	
	8-953-304-90	RECEIVER MDR-E805SP SET (E990/EJ915: CND, AEP, UK, E13, E33, FR, G, HK, CH)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

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